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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/674,250	09/29/2003	Richard Jones JR.	39,816-03	3179

7590

10/14/2005

BP America Inc.
Docket Clerk, BP Legal, M.C. 5East
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EXAMINER

DOERRLER, WILLIAM CHARLES

ART UNIT

PAPER NUMBER

3744

DATE MAILED: 10/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/674,250

Applicant(s)

JONES ET AL.

Examiner

William C. Doerrler

Art Unit

3744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2,8,9,11,13-17,19-21,25,27,29 and 30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2,8,9,11,13-17,19-21,25,27,29 and 30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 2,8,9,11,13-17,19-21,25,27,29 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Bauer article in view of Polizzotto. Bauer discloses applicants' basic inventive concept, a natural gas liquefaction device which uses electric compressors to compress refrigerant with gas turbines used to generate the electricity (see "All electric drives with combined cycle power generation" section on the last page and figure 7 which this section refers to), substantially as claimed with the exception of compressing air for the turbine feed and using a steam turbine, which is powered by steam produced from waste heat from a gas turbine used

to produce electricity, to generate electricity. Polizzotto shows these features to be old in the turbine art (see air compressor 2 and steam turbine 16 which powers electric generator 18 and the discussion thereof in column 3 lines 1-54). It would have been obvious to one of ordinary skill in the art at the time of applicants' invention from the teaching of Polizzotto to modify the natural gas liquefaction device of Bauer by compressing air to improve the gas turbine performance and to use steam generated by exhaust gas to generate electricity to increase the amount of electricity generated from a given amount of fuel. In regard to claim 25, see line 38 of column 3 of Polizzotto which states an overlapping pressure range for the steam used to power the turbine used to provide electricity.

Response to Arguments

Applicant's arguments filed 9-19-2005 have been fully considered but they are not persuasive. Applicant states that Bauer does not mention producing electricity using gas turbines. However in the cited section of the article Bauer states "The required electric energy may be generated by whatever suitable technology. As natural gas supposedly is readily available, a combined cycle power plant is a very strong competitor for the most cost effective solution." This is seen as a teaching that onsite power generation is favorable. It is noted that figure 6 of Bauer shows the use of gas turbines to produce electricity, which is used to power electric compressors for use in liquefying gas. Nevertheless this point is somewhat unnecessary when the quote from Bauer above states that electricity can be produced on site, using the onsite fuel and Polizzotto teaches producing electricity with a gas turbine as well as steam turbine

which uses heat from the exhaust of the gas turbine as a heat source. The “whatever suitable technology” for generating electricity of Bauer would lead an ordinary practitioner the art to find an efficient method of generating electricity (with a further teaching that fuel is onsite and readily available). Polizzotto fills the “whatever suitable technology” void by teaching that a gas turbine coupled with a steam turbine produces electricity efficiently (it is further pointed out that Polizzotto even teaches this generation in the environment of gas liquefaction).


While Polizzotto does state that the low temperature exhaust may be used to power an absorption cooler, in line 46 of column 3 he powers a generator 18 using steam produced by heat exchange with the hot exhaust from a turbine before the subsequently cooled exhaust is used to power the absorption cooling system.

The fact that Bauer in figure 5 shows a steam turbine driving a refrigerant compressor is not questioned. The rejection relies on figure 7 of Bauer, which shows all electric compressors combined with Polizzotto which shows the gas and steam turbines which are coupled to efficiently produce electricity for a liquefaction operation. It is unclear how applicants’ statement that Bauer does not teach using electricity from the public grid strengthens their point. If the electricity does not come from the public grid, it must be generated on site. This seems to lead even more to Bauer showing onsite generation of electricity used for powering electric compressors.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William C. Doerrler whose telephone number is (571) 272-4807. The examiner can normally be reached on Monday-Friday 6:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on (571) 272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


William C Doerrler
Primary Examiner
Art Unit 3744

WCD